



**NTSB** National Transportation Safety Board

**Collaboration**

**to**

***Reduce Risk***

***and***

***Improve Productivity***

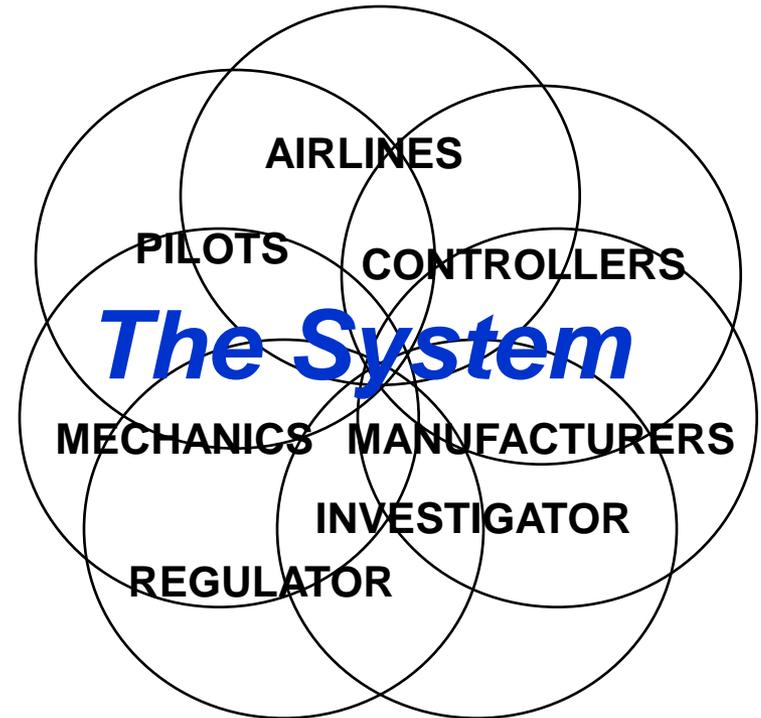
Presentation to: North American  
Electric Reliability Corporation

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# The Challenge: Increasing Complexity

- **More System**  
*Interdependencies*
  - Large, complex, interactive system
  - Often tightly coupled
  - Hi-tech components
  - Continuous innovation
  - Ongoing evolution
- **Safety Issues Are More Likely to Involve**  
*Interactions Between Parts of the System*



# The Solution – System Think

*An awareness of how a change in one subsystem of a complex system may affect other subsystems within that system*

# “System Think” via Collaboration

**Bringing all parts of a complex system together to**

- **Identify potential issues**
- ***PRIORITIZE* the issues**
- **Develop solutions for the prioritized issues**
- **Evaluate whether the solutions are**
  - **Accomplishing the desired result, and**
  - **Not creating unintended consequences**

# Collaboration: A Major Paradigm Shift

- **Old: Regulator identifies a problem and proposes solutions**
  - Industry skeptical of regulator’s understanding of the problem
  - Industry resists regulator’s proposed solutions and/or implements them begrudgingly
- **New: Collaborative “System Think”**
  - Industry involved in identifying problem
  - Industry players have “ownership interest” re solution because everyone had input, everyone’s interests mutually considered
  - Prompt and willing implementation (and tweaking)
  - Solution probably more effective and efficient
  - Unintended consequences much less likely

# Challenges of Collaboration

- Human nature: “I’m doing great . . . *the problem is everyone else*”
- Differing and sometimes competing interests
  - Labor-management issues between participants
  - Participants are potential adversaries
- Regulator probably not welcome
- Not a democracy
  - Regulator must regulate
- Requires all to be willing, in their enlightened self-interest, to leave their “comfort zone” and think of the System

TRUST

# Aviation Success Story

**65% Decrease** in Fatal Accident Rate,

**1997 - 2007**

largely because of

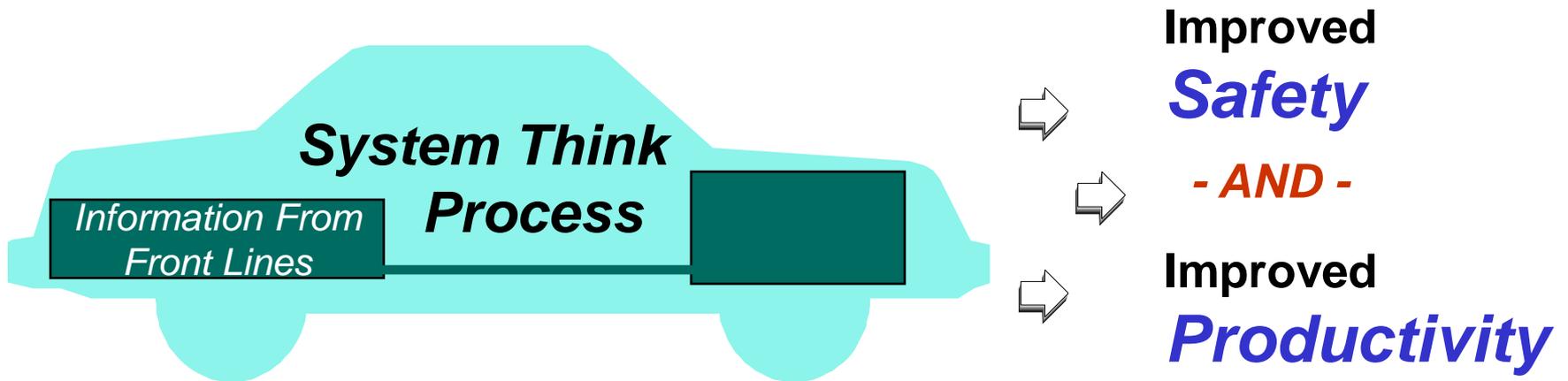
***System Think***

fueled by

***Proactive Safety Information  
Programs***

P.S. Aviation was already considered **VERY SAFE** in 1997!!

# Conclusion: Process Plus Fuel Enables A Win-Win



Thank You!!!



*Questions?*